**Tucson Iron & Metal** Custom Incineration

4484 East Tennessee Street, Tucson, Arizona 85714
Mailing Address: P.O. Box 28898, Tucson, Arizona 85726
(520) 884-1554 Fax: (520) 884-0860

April 8, 2021

Mr. Rupesh Patel, Air Permits Manager
Pima County Department of Environmental Quality
33 N. Stone Avenue, Suite 700,
Tucson, AZ 85701

**Tucson Iron and Metal**
**Scheduling for OSWI Unit Stack Tests**
**PDEQ Air Permit No. 127 / NSPS EEEE**
**Tucson, Pima County, Arizona**

Dear Mr. Patel:

The Tucson Iron & Metal (TIM) air operating/Title V permit #127 renewal, incorporating NSPS EEEE, was due and an application was submitted in 2014 for the Contraband Incinerator Facility located in Tucson and the renewal permit was issued March 26, 2018. Air permit Specific Condition #26.b and #44 thru #46 requires that the TIM incinerator meet the requirements of the U.S. Environmental Protection Agency (EPA) regulations of Standards of Performance for New Stationary Sources (NSPS), Part 60 (40 CFR Part 60), Subpart EEEE, Standards of Performance for Other Solid Waste Incineration (OSWI) Units …"

Air permit #127 contains Specific Conditions that apply to the stack testing requirements for the OSWI unit. Specific Condition (SC) #51 (PCC 17.12.040.A2, 40 CFR 60.2915) and #54 (40 CFR 60.2922), calls for sampling ports and platforms, stack testing for pollutant emissions from EPN 1, test methods and procedures from 40 CFR Part 60 to be used, 14 days advance pretest notice to the PDEQ and any requested pretest meetings.

SC #57 (40 CFR 60.2933) and #58 (40 CFR 60.2934) calls for consecutive annual tests. If three consecutive pollutant emissions tests confirm compliance with emissions limits then TIM does not have to conduct a performance test for the compliant pollutants for the next 2 years. Then TIM must conduct a performance test during the 3rd year and no more than 36 months following the previous performance test.

If the OSWI unit continues to meet the emission limitation for a pollutant, TIM can choose to skip 2 years of performance tests for all pollutants showing 3 consecutive years of prior test compliance until 3 years following the last stack test (such full test must be within 36 months of the previous performance test). And if a performance test shows a deviation from an emission limitation for any pollutant, annual performance tests for that pollutant must be conducted until three consecutive annual performance tests for that pollutant all show compliance, then 2 years testing can be skipped as described above.

Under permit #127, SC #58, TIM is allowed to skip testing for pollutant emissions that are demonstrated as continuing to meet emission limitations. However, stack tests for those pollutants must be conducted every 3rd year, with each test conducted within 36 months of the previous performance test. Attachment #1 includes the TIM OSWI unit pollution emissions test results that have continued to meet emissions limitations resulting in test requirements for those

pollutants within 3 years of the last performance test, for so long as compliance continues to be demonstrated. Stack test notices prior to a scheduled stack test, along with test protocols, must be submitted to the PDEQ and will identify which pollutants the stack test will cover.

On April 6, 2021, EPA's Dr. Nabanita Modak Fischer of the Fuel and Incineration Group, Sector Policies and Program Division, Office of Air Quality Planning and Standards, (919) 541-5572, replied to my inquiry regarding skip testing as follows:

<Modak.Nabanita@epa.gov> March 30, 2021
"Nabanita,
I have a question regarding the NSPS EEEE stack testing requirement under Section 60.2934. That section recites that testing can be less often for each pollutant if the OSWI unit has test data for at least 3 consecutive annual tests that show compliance with emission limits. In that case performance tests can be skipped for the next 2 years with a retest by 36 months after the last compliant test. Continued compliance testing is required every 3rd year. If there is a deviation from an emission limit then 3 annual tests must demonstrate compliance before 2 annual tests may be skipped.

My question is what is the interpretation of this section of NSPS EEEE if the OSWI unit is stack tested during the 2 years of not being required to test? I have several pollutant tests conducted and showing compliance during the 2 years that should have been skipped. How do I count those years? Do I count them as a test showing compliance and wait until the next year to begin 2 years of skipping annual tests. Or do I ignore the test during year I did not need to test so that the year is counted as a skipped year under the rule? ILB"

Dr. Nabanita Modak Fischer, EPA, replied follows:

"Hi Irvin, April 6, 2021
Skip testing is an optional provision that a facility may or may not exercise. If a facility does not exercise the option and conduct testing during the skip period, they could count those tests as a part of 3 consecutive annual tests.

In other words, presuming there is an immediately prior and 3rd compliant test, a facility can count these two as a test showing compliance, adds it to the immediately prior 3rd and waits until the next year to begin 2 years of skipping annual tests. Hope this helps. NMF"

Attached to this letter is a summary of the stack testing schedule that TIM has followed based upon optional skip testing as described by Dr. Modak Fischer above.

Sincerely,

Gary Kippur, Managing Member

Attachments: Attachment #1 -- 04/07/2021

cc: Mr. Matt Salazar, Manager
Enforcement ENF-2-1
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA, 94105-3901

Ms. Jacqueline Ronstadt, Air Compliance Manager
Pima County Department of Environmental Quality
33 N. Stone Avenue, Suite 700
Tucson, Arizona 85701-1429

Irvin Bilsky, P.E.
Bilsky Environmental
P.O. Box 26044
Austin, Texas 78755

Mr. Mark Severson, P.E.
Business Development and HSE Manager
Bison Engineering, Inc.
3865 E. 34th Street, Ste. 105
Tucson, AZ 85713

**Attachment #1 -- 04/07/2021**

*Stack Tests Summary:*

Heavy metals (cadmium-Cd, lead-Pb, and mercury-Hg), nitrogen oxides (NOx), dioxin/furans (D/F), particulate matter (PM), hydrogen chloride (HCl), carbon monoxide (CO) and sulfur dioxide ($SO_2$) were tested at the TIM OSWI unit beginning in 2017 followed by consecutive tests in 2018, 2019 and 2020 along with relative accuracy test audits (RATAs). For each of those years the Heavy Metals, NOx, PM and HCl tests were in compliance with the respective NSPS EEEE and PDEQ air permit #127 emission limits. $SO_2$ and D/F were noncompliant with emission limits in the 2020 stack test.

*Heavy metals (cadmium-Cd, lead-Pb, and mercury-Hg), nitrogen oxides (NOx), carbon monoxide (CO), dioxin/furans (D/F), hydrogen chloride (HCl) and sulfur dioxide ($SO_2$):*

In 2020 the Heavy Metals, NOx, PM, and HCl testing demonstrated compliance with emission limits. Further testing for these pollutants is not required until the 3rd year following (36 months after) the 2020 test because of the previous 3 consecutive years of compliance (except for $SO_2$ and D/F). Additional full testing must be conducted within 36 months after the 2020 performance test. If compliance is demonstrated, 2 years of skip testing is allowed; otherwise 3 consecutive years of compliance has to be demonstrated. The following is a summary of the TIM test results:

| Year | Pollutant | % of Metals concentration Limit in µg/dscm: (Cd - 18 (Pb - 226 (Hg - 74 |
|---|---|---|
| 2017 | Cd | 3.3 |
| | Pb | 54..4 |
| | Hg | 13.5 |
| 2018 | Cd | 71.7 |
| | Pb | 40.8 |
| | Hg | 32.7 |
| 2019 | Cd | 1.7 |
| | Pb | 5.3 |
| | Hg | 1.4 |
| 2020 | Cd | 1.6 |
| | Pb | 4.4 |
| | Hg | 4.1 |

2021 &2022: (metals test not required until 2023: regulatory 2 years suspension of metals test followed by test within 36 months from 09/10/2020 test)

Nitrogen oxides (NOx) emissions were tested in 2017, 2018, 2019 and 2020. For each of those years the NOx tests were in compliance with the respective NSPS EEEE and PDEQ air permit #127 emission limits. For the following two years (2021 and 2022) NOx testing is not required because of the previous 3 consecutive years of compliance under NSPS EEEE and air permit #127. Further testing for NOx is not required until the 3rd year following the last test, which will take place in 2023. That test must be conducted within 36 months of the previous performance test concluding on 09/10/2020. The following is a summary of the described test results:

| Year | Pollutant | % of NOx concentration Limit of 103 ppmvd |
|---|---|---|
| 2017 | NOx | 79.5 |

| | | |
|---|---|---|
| 2018 | NOx | 70.7 |
| 2019 | NOx | 71.8 |
| 2020 | NOx | 88.3 |

2021 & 2022: (NOx test not required until 2023: regulatory 2 years suspension of NOx test followed by test within 36 months from 09/10/2020 test)

Carbon monoxide (CO) was tested in 2017, 2018, 2019 and 2020. For each of those years the CO tests were in compliance with the respective NSPS EEEE and PDEQ air permit #127 emission limits. During the next two years, 2021 and 2022, CO stack testing is not required because of the previous 3 consecutive years of compliance under NSPS EEEE and air permit #127. Further testing for CO is not required until the 3rd year following the last full test (by 09/10/2023) because of the previous 3 consecutive years of demonstrated compliance. The following is a summary of the described test results:

| Year | Pollutant | % of CO concentration Limit of 40 ppmvd |
|---|---|---|
| 2017 | CO | 31.3 |
| 2018 | CO | 9.5 |
| 2019 | CO | 87.5 |
| 2020 | CO | 35.0 |

2021& 2022: (CO test not required until 2023: regulatory 2 years suspension of CO test followed by test within 36 months from 09/10/2020 test)

Dioxins / furans were tested in 2017, 2018, 2019 and 2020. For the years 2017 through 2019 the dioxin/furan (D/F) tests were in compliance with the respective NSPS EEEE and PDEQ air permit #127 emission limits (33 nanograms per dry standard meter$^3$: ng/dscm). TIM tests have previously been reported using a toxicity-based adjustment (TEQ) to the D/F laboratory spectroscopic test results but PDEQ has insisted on using a mass-basis report of the test results. PDEQ has accepted TEQ based test results in previous years.

During the 2020 stack test the D/F test was noncompliant with a mass-based test result. (Note: the TEQ based test results demonstrate compliance.) Repeated D/F testing has been conducted showing progressively lower D/F mass-based test results. Three consecutive years of compliant testing must be demonstrated before skip testing is allowed. The following is a summary of the TIM stack test results:

| Year | Pollutant | % of D/F concentration Limit of 33 ng/dscm | |
|---|---|---|---|
| 2017 | D/F | 3.81 | |
| 2018 | D/F | 0.65 | |
| 2019 | D/F | 1.33 | |
| 2020 | D/F | >100 | (failed mass-based limit 3 times in 2020, reschedule; 3 years of compliance required to be able to skip) |

2021 (test not yet scheduled)

*Hydrogen Chloride (HCl):*

For the past 3 years the tests for hydrogen chloride have demonstrated compliance with permitted emission limits.

Hydrogen chloride (HCl) emissions were tested in 2017, 2018, 2019 and 2020. For the past 3 years the HCl tests were in compliance with the respective NSPS EEEE and PDEQ air permit #127 emission limits. Further HCl testing is not required until the 3rd year following the last test because of the previous 3 consecutive years of compliance. The test must be conducted within 36 months of the previous performance test. The following is a summary of the described test results:

| Year | Pollutant | % of HCl concentration Limit of 15 ppmvd |
|---|---|---|
| 2017 | HCl | 14.9 |
| 2018 | HCl | 9.5 |
| 2019 | HCl | 2.9 |
| 2020 | HCl | 60.0 |

2021 & 2022: (HCl test not required until 2023: regulatory 2 years suspension of HCl test followed by test within 36 months from 09/10/2020 test)

Particulate matter (PM) emissions were tested in 2017, 2018, 2019 and 2020. For each of those years the PM tests were in compliance with the respective NSPS EEEE and PDEQ air permit #127 emission limits. For the following two years (2021 and 2022) PM testing is not required because of the previous 3 consecutive years of compliance under NSPS EEEE and air permit #127. Further testing for PM is not required until the 3rd year following the last test (2022) because of the previous 3 consecutive years of compliance. That test must be conducted within 36 months of the previous performance test. The following summary describes the test results:

| Year | Pollutant | % of PM concentration Limit of 0.013 gr/dscf @7% $O_2$ |
|---|---|---|
| 2017 | PM | 69.9 |
| 2018 | PM | 92.3 |
| 2019 | PM | 100.0 (pass) |
| 2020 | PM | 38.5 |

2021 &2022: (PM test not required until 2023: regulatory 2 years suspension of PM test followed by test within 36 months from 09/10/2020 test)

Sulfur dioxide ($SO_2$) emissions were tested in 2017, 2018, 2019 and 2020. Tests for $SO_2$ failed to meet the NSPS and permit #127 limit in 2017 and 2018. $SO_2$ met its emission limit in 2019 and 2020. For the years 2017 and 2018 the $SO_2$ tests were <u>not</u> in compliance with the respective NSPS EEEE and PDEQ air permit #127 emission limit. Further $SO_2$ testing is required until 3 consecutive years of testing demonstrates compliance (3rd test in 2021). The following is a summary of the TIM stack test results:

| Year | Pollutant | % of SO2 concentration Limit of 3.1 ppmvd |
|---|---|---|
| 2017 | $SO_2$ | 1,367.7 |
| 2018 | $SO_2$ | 661.3 |
| 2019 | $SO_2$ | 3.2 |
| 2020 | $SO_2$ | 2.3 |
| 2021 (test not yet scheduled) | $SO_2$ | (3rd year of a compliant test required to allow skip ) |

2022 & 2023: ($SO_2$ test not required until 2024 provided 2021 test demonstrates compliance.